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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,088	12/19/2001	Mitsugu Kamizuru	35.C16071	8751

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EXAMINER

TAWFIK, SAMEH

ART UNIT

PAPER NUMBER

3721

DATE MAILED: 07/15/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/021,088	KAMIZURU ET AL.
	Examiner	Art Unit
	Sameh H. Tawfik	3721

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-11 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1.) Certified copies of the priority documents have been received.
 2.) Certified copies of the priority documents have been received in Application No. ____.
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> .	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Branecky et al. (5,180,151).

Branecky discloses a sheet folding apparatus for folding the sheet by nipping and conveying a sheet by a pair of folding rollers (Figs. 1 and 2; via folding rollers 18 and 20) and wherein at least one of the pair of folding rollers has larger diameter portion and small diameter portion along an axis thereof (via grooves 24 and 26).

Regarding claim 2: a large diameter portion for nipping and conveying the sheet is provided at a sheet convey center portion of the roller (Figs. 2-4).

Regarding claim 3: the large diameter portion is provided at the sheet convey center portion such that a width of the large diameter portion in the axis direction, which is provided at the sheet convey center portion of the folding roller is substantially $\frac{1}{2}$ of a minimum width of a sheet size folded in the sheet folding apparatus (Figs. 2-4).

Regarding claim 4: the large diameter portion of the roller is positioned outside a movable range of a maximum size sheet in the apparatus (Figs. 2-4).

Regarding claims 5 and 6: a predetermined gap is formed between the rollers at a convey nip between the pair of folding rollers (Figs. 1-4).

Regarding claims 7 and 8: the predetermined gap between the rollers is set smaller than a thickness of three sheets conveyed to the nip (Figs. 2 and 3; column 1, lines 19-26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Branecky et al. (5,180,151).

Branecky does not disclose exactly that the large diameter portion of the roller is tapered. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Branecky's sheet folding apparatus by having the large diameter portion of the roller is tapered rollers, as a matter of engineering design choice, since the examiner takes an official notice that the mentioned rollers are old, well known, and available in the art.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takehara et al. (6,290,220) in view of Branecky et al. (5,180,151).

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Takehara discloses an image forming apparatus having image forming means for forming an image on a sheet and a sheet conveying means for conveying the sheet on which the image is formed by the image forming means, see for example (Figs. 1-5 and abstract). Takehara does not disclose sheet folding processing means for folding the conveyed sheet including a sheet folding apparatus according to claim 1. However, Branecky discloses a sheet folding processing means for folding the conveyed sheet including a sheet folding apparatus according to claim 1, as set forth in the action.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Takehara's image forming apparatus by having a sheet folding processing means for folding the conveyed sheet including a sheet folding apparatus according to claim 1, in order to improve the image forming apparatus by adding folding station to fold thin collations as well as thick collation and not derogate from the quality of folding (column 1, lines 35-39).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tabbe 5048809, Moll 4650454, Kitai 4781667, and Click 3576051 disclose different folding apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameh H. Tawfik whose telephone number is (703) 308-2809. The examiner can normally be reached on Tuesday - Friday from 8:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi Rada can be reached on (703) 308-2187. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 308-7769 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

ST.
July 10, 2003

Eugene K
EUGENE KIM
PRIMARY EXAMINER